A GROSS MISTAKE

We read in the Hollister "Free Lance" that Dr. G. Clement King, former Episcopalian pastor, who for some time past has been practising the chiropractic art in that metropolis, has left for pastures new where he will take up his noble work. It will be remembered, of course, that the chiropractic colleges assure us that no matter how often a man may fail in other walks of life, after a six-months' course in a chiropractic college he is sure to succeed in this strenuous art of healing.

We presume, then, we are to assume that the Rev. G. Clement King, we might say the Episcopal ace, has succeeded so successfully that he feels he is hiding his light under a bushel in Hollister and is going to give some larger center a chance. All we can say is, what will Hollister do without him?

Dr. Pinkham, Secretary of the Board of Medical Examiners, informs us that there are some forty chiros under arrest awaiting trial for practising medicine illegally. The only reason all are not in a similar position is the overcrowded condition of the courts.

P. S.—We notice by the same editorial that Dr. M. L. Gross is to take the place of Dr. King. We are rather inclined to think this is a gross mistake.

COMPULSORY CHESTNUTS

The United States Department of Agriculture after ten years' experimentation is now able to demonstrate that it is possible to cross the chinquapin, a dwarf chestnut, with the Japanese chestnut, which is blight-resistent. The hybrid trees produced are quite resistant to the disease of Japanese origin which almost annihilated the chestnut orchards of this country. The orchards which are being restored through the scientific efforts of experts yield nuts of good flavor and quality.

Some day some "nuts" may start an initiative to prohibit compulsory chestnuts, claiming vehemently that dwarf chestnuts have an inherent right to remain dwarf chestnuts. This initiative is respectfully referred to the proponents of Number 6.

The two middle members of the "Quack Quartet" —6 and 7—appeared in the final feature of their joint campaign with a handbill declaring "Boards of Health All Bunk." Some of our main streets were literally littered with this ludicrous literature. It was truly descriptive and worthy of its source.

Original Articles

THE EDUCATION AND TRAINING OF THE MODERN SURGEON.*

By ANDREW STEWART LOBINGIER, A. B., M. D., F. A. C. S., † Los Angeles.

The modern student of medicine still suffers from the lack of balance and perspective in the curriculum offered for his training. One wonders if we shall ever get away from time-worn and obsolete methods; if we shall ever realize the years required to mature the scientific student in the manner and the method of acquiring knowledge.

In an effort to save time, we have adopted a combination of an abridged academic course with a crowded professional one, only to produce an immature and undertrained individual whose mind has been taught to hasten and crowd, but never to correlate. There is no short cut to mature accomplishment. Carlyle's *mot* that "genius is simply the expression of the capacity for hard work" is inapposite, if the effort be misdirected. It is as true in surgery as in letters, that a broad and liberal academic background is absolutely essential to an authoritative place in art.

The acceptance of the doctrine that the humanitarian studies are not essential to culture and may be disregarded in a scientific training, is a retrogression. Such specious argument has gone far to make the medical student shallow, inadequate, and pitifully hedged about by limitations from which there is no escape.

The greatest indictment against the American student is his haste to "get through." It is only another expression of that insularity which has distinguished us.

There is not only need that we should be deliberate and cultivate a philosophic poise in our method of study, but that we should acquire a sense of proportion in life's relationships.

If the American surgeon would establish a proper claim to scholarship, he must touch art and life at more vital points, and reveal a versatility which will justify that claim.

The late war brought into salient relief what had been long known to teachers of surgery, that an ever-increasing number of men in this country have a secret yearning to be known as surgeons. Applications to go on the surgical service at the base hospitals were pressing and abounding. As in civil practice, inadequate qualifications and training were no barrier to this aspiration. It derived its *raison d'etre* from the conscious assumption that having a record of a limited number of major operations was sufficient justification. It has never been for such men to distinguish between a manual facility and a real scholarship in surgery. It is because most of us have failed in that essential distinction that we are justly known as a "race of operators." We have accentuated speed and manual dexterity and neglected the intellectual and spiritual foundation upon which every great structure of art or science must be grounded.

If we may assume then that the pre-medical training has been broad and scholastic we must consistently carry the primary purpose to its logical conclusion and make the scientific training generous and scholarly, and one of the first steps in this purpose should be to rid ourselves of some false traditions. One of these is that a knowledge of anatomy is so indispensable to the surgical student that physiology and chemistry may be regarded as subjects concerning chiefly the internist.

A similar fallacy has existed relative to physical diagnosis. The truth is, the surgical student learns anatomy as he would his alphabet, but he should be made to understand the great fundamentals of his surgical knowledge are biology, chemistry, physiology and pathology. His learn-

* Read before the Forty-ninth Annual Meeting of the Medical Society of the State of California, Santa Barbara, May, 1920.

† Chairman's Address, Surgical Section, California State Medical Society, Santa Barbara, May 11, 1920.

ing and accomplishment can never grow stale and unprofitable in these four great fields of investigation. They should not be investigated solitarily, but in their remarkable correlationships. Three of these subjects should be studied experimentally. It is quite as necessary that we should study chemistry and pathology experimentally as we should physiology. It is of course necessary that we should study chemistry in its arbitrary subdivisions, as inorganic, organic, bio-, physiologic and pathologic chemistry; but we should understand the correlationship of their reactions and conditions under which they operate in the human body. If we know our physiology and pathology well, we shall find it less difficult to interpret problems in pathologic-physiology and, in like manner, questions in pathologic-chemistry.

We have long confused the subject of pathology with morbid and microscopic anatomy. At the Nottingham meeting of the British Medical Association in 1892, Victor Horsley, in his address as chairman of the Section in Pathology, said: "However absurd the statement may appear to some, I venture to assert that pathology as such is almost unknown amongst us. The fact is that what is commonly spoken of as 'pathology,' taught as 'pathology' and made the subject of examinations in 'pathology' is nothing of the sort; it is not pathology; it is morbid anatomy. . . . The pathologist should be the student of disordered function, as well as of disarranged structure. . . . To what are we to ascribe the surprising indifference to pathology? I have not the slightest hesitation in saying that it is due to a want of familiarity with modern progress in physiological and chemical research. Fortunately, laboratories are springing up now on all sides, original investigations are being pushed forward, light and knowledge widely diffused. The reproach that we have been dead-house students rather than pathologists will therefore soon be wiped away."

But has it? Has this reproach, uttered a generation ago by this great master in experimental physiology and pathology, no ground for reiteration today? Some progress has been made and some things we have learned, amongst them that the misleading gross appearances in the dead room are not to be considered beside the living pathology revealed at the operating table. But Moynihan's emphasis placed on these informing evidences can not suffice for that vaster field of pathologic physiology and pathologic chemistry which can only be investigated by laboratory and experimental research. The modern medical student has barely crossed the threshold of chemical and pathological research. Much of his time, if he has been fortunate enough to be assigned to such investigations, must necessarily have been occupied in the disproof of theories hitherto accepted. When the writer was a laboratory worker, a half year of most laborious effort resulted only in the disproof of an obstruse theory in a problem in pathologic chemistry. One could scarcely say the time spent in this original investigation was wasted, because that particular fact was conclusively settled. Even a negation may have an abstract affirmative value. It is this very point of view that the student in scientific medicine needs to acquire early and never let his vision turn away from it.

We may grant for the sake of argument that much that is printed under the title of "research" in our technical and surgical journals is of little value. But under the direction of our Universities and Foundations, which are adequately provided with facilities, the product from the various fields of research will have an increasing value. The necessity of having acquired in the premedical course a reading knowledge of several modern languages is especially felt by the student working in research laboratories.

However much the field of original investigation may be limited to a favored few, we cannot place too high an estimate on its importance in the advance of surgical knowledge. Through its enlightening results we have been able to acquire a more precise clinical understanding and facility in bedside analysis. And we should never lose sight of the value of clinical evidences, only gained by a carefully taken history and by the critical study at the bedside. No possible emphasis on laboratory study can obscure the even more emphatic necessity of a long, critical and patient investigation of clinical evidences learned only in the sick room.

One hears continually the criticism that a fatuous dependence has come to be placed on laboratory analysis and roentgenography, to the exclusion of the tried and tested clinical evidences which were formerly and should now be our chief reliance in physical diagnosis.

If this criticism is well founded it should only serve to make us better clinical students by giving us a keener understanding of the relationship and value of laboratory and clinical evidences. We are conscious of the fact that there has been a tendency to exaggerate the value of laboratory findings in a manner to overshadow the primary importance of clinical evidences which should confirm them.

The surgeon should make his own diagnosis. He should not depend upon the internist to do this for him. He should be broad enough in his technical training not only to appraise the value of the technician's report, but to pass upon the accuracy of the technical methods. Why should not a surgeon be as accomplished in chemistry and pathology as the internist? The excuse that he has not the time is only another way of saying he never learned how. He may no longer offer the lack of opportunity as an excuse. The modern student in surgery has every opportunity to acquire this knowledge and facility. He may not constantly require to exercise this privilege, but he does need to constantly exercise his critical review of laboratory reports and be able to interpret them with intelligence.

Much is being said and written about the postgraduate special training of the young aspirant in surgery. Nine years ago we were invited to discuss this subject before the American Academy of Medicine.* We took the ground that, after

* Postgraduate Degrees in Medicine. Bulletin American Academy of Medicine, December, 1911.

the medical degree and the usual hospital internship, special surgical training in the wards and operating room for a period of at least three years under the direction of a master surgeon, should be the minimum requirement for such a course. In order that proper credit should be given for this course, the degree of Bachelor of Medicine should be given to the under-graduate and after the hospital internship and a three year's special surgical course, the degree of Doctor of Medicine be conferred. A graduate thus specially trained should, after examination by a Federal official board of surgeons, be licensed to practice surgery in any commonwealth of the Republic without further examination. He should be thenceforth known as a surgeon and eventually be in line for fellowship in the American College of Surgeons. By this orderly, simple and scientific course, the young surgeon would have an instant orientation and standing. There could never be any question of the justification of his claim in announcing himself a surgeon, young though he might be and lacking in the maturer judgment which comes with a longer experience. It would be the natural ambition of this young surgeon to enlarge and embellish his training by teaching, and by travel, as privilege and opportunity permitted.

With such a course laid down as the curriculum for every student in surgery, the present chaotic state of the practice of surgery in America would not only be simplified, but the stamp of system, thoroughness and character would be given to the work.

Finally, to the time-worn criticism that a long course in medical training is too expensive for the average student, we may venture the reply that all education has steadily grown more expensive. A way will always be found by or for the student of brains and quality, no matter how long and difficult the course. And what medicine needs today is quality; the very finest type of intellect is none too good for the surgical demands of the period. We shall have done for humanity and for our guild the greatest possible service if we shall have maintained, with unfailing courage, the scholarship and training of the student on the highest intellectual plane.

MAGNET EXTRACTION OF FOREIGN BODIES WITH PARTICULAR REFERENCE TO THE IMPORTANCE OF ACCURATE LOCALIZATION.*

By HANS BARKAN, M. D., San Francisco.

The removal of foreign bodies from the eye by some magnetic implement is not a modern manoeuvre, but was practiced in isolated cases and in very rough form in the middle ages. The accurate methods of removal and localization are, however, of fairly recent origin. Dixon of London in 1859 is first on record as having drawn from the posterior chamber through a scleral incision a part of a blade of scissors. In 1874 McKeown of Belfast, also through a scleral incision, removed a foreign body with a specially constructed magnet.

The names of Snell, Sulzer, Schlosser, Hirschberg and Haab follow each other in rapid succession, each improving on some form of magnet until 1892 when the last named constructed his famous giant magnet which, with slight modifications, is still the most powerful magnet of them all.

The original method of removal, that of scleral incision for bodies posterior to the iris plane, was in consequence of Haab's magnet and its immense power, not very much used up to fairly recent years when it has again met with the approval of a number of eminent operators, and has been resorted to in most cases by them.

This paper will deal in the main with bodies capable of removal by some form of magnet, and chiefly with bodies posterior to the iris plane.

Every foreign body case is a law unto itself, but for purposes of discussion one can divide the cases rather didactically into a certain number of fairly well marked clinical groups: *1st*—cases seen early, 1 to 3 hours after injury with no visible infection; *2nd*—middle stage cases, 2 to 3 days after injury which again consist of two groups,—the eye not infected and the eye infected; and *3rd*—late cases, weeks or months after injury, again divisible into two groups,—the eye not infected, and the eye changed in its anatomy as the result of infection at the time of injury.

Without, for the moment, taking up the location of the foreign body, its size, its shape, the character of the wound, or the amount of vision remaining, we can discuss the clinical picture of certain early, middle and late stages. Cases seen very early, 1 to 3 hours, no signs of infection as yet, demand immediate removal. It is the practice of some men in these cases, to extract the foreign body through the anterior route by means of the most powerful magnet obtainable without waiting for localizing pictures on the theory that the sooner removed the less danger of infection to follow. This, while it has some points in its favor, in general, I think, is to be condemned. I do not believe that it at all influences the question of infection. If the piece has carried in bacteria, infection will take place no matter whether the piece be removed an hour after its entry or a number of hours afterward. Removing a piece of unknown size and uncertain location by main force exerted at the anterior pole of the eye does, in many cases, cause traumatic consequences which could well be avoided if a few extra hours were taken to accurately localize the piece and estimate its size and shape.

The middle stage cases,—2 to 3 days after injury, depend upon their immediate treatment as to whether infection has taken place or no. If an acute purulent infection exists, immediate primary removal of the eye is indicated. If no infection exists, none will take place and time can well be taken for accurate localization. If a subacute infection, mild iritis and cyclitis be present but no frank purulent process, the foreign body removal is indicated as soon as possible after localization. I have seen a number of such eyes, the subacute process dying down and

* Read before the Forty-ninth Annual Meeting of the Medical Society of the State of California, Santa Barbara, May, 1920.